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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/644,389	08/23/2000	Edward F. Kachnic	2000-1220-RA	1510

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EXAMINER

CABRERA, ZOILA E

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 04/30/2004

17

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/644,389

Applicant(s)

KACHNIC ET AL.

Examiner

Zoila E. Cabrera

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on February 11, 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 17-21 and 34-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-21 and 34-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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### DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The rejection under 103 with respect to claims 17-21 is maintained.

New claims 34-40 are presented for consideration.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Choi (US 6,275,741)** in view of the admitted Prior Art (Page 7, lines 18-25; Page 8, lines 1-14).

**Choi** discloses an integrated controller comprising a machine controller, sensory electronics, and a user interface (Fig. 4, elements 44, 248, 426, 430) for use with a part forming machine (Col. 2, lines 49-54), comprising:

With respect to claims 17-21,

- a computer having a data interface (Fig. 1, element 24 and 44);  
sensory electronics in communication with said data interface of said computer,  
said sensory electronics outputting sensory data to said computer via said data interface (Fig. 4, elements 406, 24, 44);

a program for analyzing data from the sensory electronics and controlling the part forming machine and said sensory electronics in response to said sensory data (Col. 3, lines 1-5); and means for displaying information, said display means being in communication with said computer (Fig. 1, elements 38 and 44; Col. 4, lines 60-67), wherein said sensory electronics functionally communicates with said data interface of said computer (Fig. 1, elements 12, 14 20, 22 and 44; Fig. 4, elements 406, 44, 24) and wherein the injection-molding machine is functionally communicatable with said data interface of said computer (Fig. 1, injection molding machine 10 and a general purpose computer 44).

However, **Choi** fails to specifically disclose some limitations of claims 17-21 such as the type of sensors (vision sensor, infrared sensor, air pressure sensor, vacuum sensor, ultrasonic sensor) used in conjunction with the injection molding system and the use of those sensors for acquiring data regarding the status of a formed part relative to the mold of a part-forming machine or for acquiring data regarding the presence or absence of a formed part within the mold of the part-forming machine. However, on Page 7, lines 18-25 and Page 8, lines 1-14 under Background of the Invention, Applicant admits that different types of sensors such as vision sensors, infrared sensor, air pressure sensors, vacuum sensor and others have been conventionally used for acquiring status data of a formed part relative to the mold, see Page 7, lines 18-25, "various technologies have also been developed and ***used to sense or determine whether the hard molded plastic parts have indeed been dislodged and***

***completely ejected or removed from the molds*** before the mechanical or hydraulic rams are allowed to close. ***Such technologies have included light beam sensors, visions systems, air pressure sensors, vacuum sensors and others***". On Page 8, lines 13-14, Applicant admits the use of infrared sensors for detecting any plastic retained in the mold. Applicant further admits means for sensing the presence or absence of a formed part within the mold, see Page 8, lines 10-12, "U.S. Patent No. 4,603,329 issued to Bangerter et al. shows an optoelectric sensor system coupled to a controller ***for sensing presence or absence of the molded plastic parts***".

Therefore, it would have been obvious to a person of the ordinary skill in the art at the time the invention was made to combine the teachings of **Choi** and include sensors such as vision sensors, infrared sensors, air pressure sensors, vacuum sensors and others for sensing the status of a formed part as taught in the admitted Prior Art because it would provide an improved system with true real-time controlling (**Choi**, Col. 2, lines 16-18) by using position measurement devices for providing measurement of the actual position of the process (Col. 10, lines 21-22). Furthermore, it would provide an improved system capable of achieving injection molding device control loop updates on the order of milliseconds (Col. 6, lines 16-18) for monitoring the status of a device (Col. 6, lines 30-36).

With respect to new claim 34, the same citations applied to claim 17 above, apply as well for claim 34. Please note that "inspection data" reads on "sensory data" and "sensory electronics **inspecting** the formed part" reads on "sensing or determining

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whether the hard molded plastic parts have been dislodged and completely ejected or removed from the molds" as mentioned above.

3. Claims 35-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Choi (US 6,275,741)** in view of **Bangerter et al. (US 4,603,329)**.

**Choi** discloses most of the limitations of claim 40 (the same citations applied to claim 17 apply as well for claim 40). However, **Choi** does not disclose some of the limitations of claim 40 and limitations of claims 35-39. But **Bangerter** discloses such limitations as follows:

Regarding claim 40,

- a robotic member, said robotic member in functional communication with said data interface of said computer, wherein the formed part is removed from the mold via said robotic member, and wherein said robotic member positions the molded part for inspection by said sensory electronics (Col. 3, lines 35-42; Col. 5, lines 19-24); and controlling said robotic member in response to said sensory inspection data (Col. 3, lines 42-46).

As for claims 35-39,

- said sensory inspection data is acquired on the parting line surface of the mold of the part-forming machine (Col. 3, lines 35-37);
- said sensory inspection data generated from said inspection of the formed part is measurement data (Col. 3, lines 23-27, i.e., function of the intensity or frequency of incident light)

- said sensory inspection data generated from said inspection of the formed part is characterization data, said characterization data enabling sorting of the formed parts (Col. 2, lines 37-43; Col. 2,, line 64 – Col. 3, line 2);
- said sensory electronics in response to said sensory inspection data performs said analysis and control operations before the part-forming machine begins a new molding cycle (Col. 3, line 67 – Col. 4, line 8; Col. 18, lines 41-45);
- said sensory inspection data performs said analysis and control operations in parallel with a new part-forming machine cycle (Col. 3, lines 33-42 and lines 47-51).

Therefore, it would have been obvious to a person of the ordinary skill in the art at the time the invention was made to combine the teachings of **Choi** with the device and method of **Bangerter** because it would provide a relatively inexpensive yet highly reliable parts sensing device which, when used in conjunction with extractor apparatus, can sense not only when all part have been “gripped” by the extractor apparatus but also when the parts have been successfully released by the extractor apparatus (Col. 2, lines 53-58).

### ***Response to Arguments***

4. Applicant's arguments filed February 11, 2004 have been fully considered but they are not persuasive.

Applicant contends that the novel improvement taught by the integration of the sensory controller and the machine controller in Applicant's device is distinct from the

improvement offered by Choi. Examiner reiterates that the claims as presented read on Choi regardless of the focus on 'improvement'.

Applicant further contends, regarding the newly added limitations, that Choi's invention is restricted by its reliance on operator input from a human machine interface and whereas applicant's invention receives input signals from the sensory device, analyze the data, provide an output signal to the sensory device and communicate directly with the machine controller without necessitating any human interaction. Applicant further states that applicant's device does not require signals from an operator, although a user interface is provided to enable direct control, such as for in an emergency situation, or initial set up. Examiner disagrees with such statements since Choi clearly states "the computer preferably performs real-time **closed loop control of the plurality of injection molding devices** *while also* processing system feedback signals and operator signals" (Abstract, lines 11-13). Please note that the closed loop controlled functions have a higher priority than the HMI functions (Col. 5, lines 39-44). While an operator **can** (not must) control the injection molding process from the HMI (Col. 5, lines 35-37), the closed loop control of the molding devices may take place.

Applicant argues that "sensory electronics of applicant's device are distinct from the cited sensory electronics of Choi. Examiner reiterates that "feedback sensors" (Fig. 4, element 406) as taught by Choi may include any sensors that are well known in the art such as the sensors admitted by the applicant (see Page 7, lines 18-25, Page 8, lines 1-14 ). Applicant contends that Choi does not disclose sensory electronics. Choi discloses sensory electronics (Fig. 4, element 406).



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Applicant argues that the teaching of Choi does not suggest any anticipation of utilizing automated sensory data acquisition for machine control. Examiner disagrees because Choi teaches such limitations (Col. 3, lines 1-5; Fig. 4, element 406, 24, 44).

Applicant argues that Choi does not teach or anticipate an integrated controller capable of directly acquiring and analyzing sensory data and for utilizing said data for controlling a part-forming machine without requiring input from a user interface. Examiner disagrees because Choi teaches such limitations as previously cited (see Fig. 4, elements 44, 24, 406; Abstract, lines 11-13, i.e. closed loop control of injection molding machine).

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

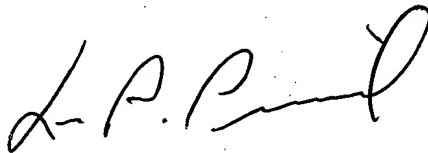
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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning communication or earlier communication from the examiner should be directed to Zoila Cabrera, whose telephone number is (703) 306-4768. The examiner can normally be reached on M-F from 8:00 a.m. to 5:30 p.m. EST (every other Friday).

If attempts to reach the examiner by phone fail, the examiner's supervisor, Leo Picard, can be reached on (703) 308-0538. Additionally, the fax phones for Art Unit 2125 are (703) 872-9306. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist at (703) 305-9600.

Zoila Cabrera  
Patent Examiner  
4/26/04



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